ABSTRACT

The invention provides compositions including a population of particles having a void-containing rubber portion wherein the proportion of the voids ranges from 1 to 90%. In one embodiment, the rubber portion ranges from 20 to 90 weight percent; and in another embodiment from 92 to 100 weight percent, of the individual particles. In the former embodiment, a crosslinking agent can be present. If not present, at least one of the following conditions must exist: 1. the polymeric composition includes at least 1 weight percent of a processing oil component, 2. the polymeric composition includes at least 2 weight percent of a processing aid component; 3. the polymeric composition contains at least two populations of particles, wherein each has a rubber-containing portion, and wherein the difference is in at least one of the following: their void concentration, their chemical composition, their average particle size, or their shape; and 4. the polymeric composition contains at least one population of particles having a rubber-containing portion including at least one of the following blends: an organosiloxane and an isobutylene; a vinyl polymer and an isobutylene polymer; or an organosiloxane polymer, a vinyl polymer, and an optional isobutylene polymer. In the latter embodiment, a crosslinking agent can also be present, as well as any of features 1, 2 or 3 set out above. The invention further provides novel thermoplastic systems comprising a resin component and at least one of the above polymeric compositions.